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JUL 07 2006

Amendments to the Claims:

This listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of Claims:

1-10. (Cancelled)

11. (Currently Amended) An atherectomy apparatus, comprising:
an elongate catheter having a distal end and a proximal end and a lumen
therebetween;

an atherectomy element distal the distal end of the catheter, wherein the
atherectomy element operates by rotation;

a shaft operably connected to the atherectomy element and extending through the
lumen; and

a measurement device for measuring changes in the atherectomy device; wherein
the measurement device measures sound or the torque of the shaft.

12. (Currently Amended) The atherectomy apparatus of claim 11, ~~wherein the
atherectomy element operates by rotation, and~~ wherein the measurement device measures
the torque of the shaft.

13. (Previously Presented) The atherectomy apparatus of claim 12,
wherein the measurement device comprises
a first angle sensor disposed on the shaft;
a second angle sensor disposed on the shaft; and
a torsion spring disposed between and attached to the first and second angle
sensors.

14. (Previously Presented) The atherectomy apparatus of claim 11,
wherein the measurement device creates a plurality of data, and wherein the apparatus
further comprises an output device to present the data in a human-understandable format.

15. (Previously Presented) The atherectomy apparatus of claim 14, wherein the output device comprises an acoustic signal generator that outputs the data as audible acoustic signals.

16. (Previously Presented) The atherectomy apparatus of claim 15, wherein the output device comprises an optical display element that outputs the data as displayable signals.

17. (Previously Presented) The atherectomy catheter of claim 11, wherein the measurement device is disposed at a proximal portion of the shaft.

18. (Previously Presented) The atherectomy catheter of claim 11, wherein the measurement device operates by measuring energy in the shaft that occurs as a function of the external effects in the environment of the rotational element.

19. (Currently Amended) The atherectomy apparatus of claim 11, wherein the sensor measurement device senses sound waves in the shaft and wherein the sensor measurement device is coupled to an output devices for making the sound waves audible.

20. (New) The atherectomy apparatus of claim 11, wherein the measurement device measures sound waves generated by rotation of the atherectomy element.

21. (New) An atherectomy apparatus, comprising:
an elongate catheter having a distal end and a proximal end and a lumen therebetween;
an atherectomy element distal the distal end of the catheter, the atherectomy element operating by rotation;
a shaft operably connected to the atherectomy element and extending through the lumen; and
a measurement device for measuring changes in the atherectomy device, the measurement device measuring the torque of the shaft, the measurement device including

a first angle sensor disposed on the shaft;
a second angle sensor disposed on the shaft; and
a torsion spring disposed between and attached to the first and second
angle sensors.

22. (New) An atherectomy apparatus, comprising:
an elongate catheter having a distal end and a proximal end and a lumen
therebetween;
an atherectomy element distal the distal end of the catheter;
a shaft operably connected to the atherectomy element and extending through the
lumen; and
a sensor for sensing changes in the atherectomy device, wherein the sensor senses
sound waves in the shaft and wherein the sensor is coupled to an output devices for
making the sound waves audible.